

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 26 February 1999 (26.02.99)	
<b>International application No.</b> PCT/US97/18674	<b>Applicant's or agent's file reference</b> 032301-007
<b>International filing date</b> (day/month/year) 14 October 1997 (14.10.97)	<b>Priority date</b> (day/month/year) 11 July 1997 (11.07.97)
<b>Applicant</b> ABOUL-HOSN, Walid	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

29 January 1999 (29.01.99)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer</p> <p>C. Carrié</p> <p>Telephone No.: (41-22) 338.83.38</p>
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# PATENT COOPERATION TREATY

PCT

COMMUNICATION IN CASES FOR WHICH  
NO OTHER FORM IS APPLICABLE

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 21 November 1997 (21.11.1997)	
Applicant's or agent's file reference 19193-706	REPLY DUE see paragraph 1 below
International application No. PCT/US97/18674	International filing date (day/month/year) 14 October 1997 (14.10.1997)
Applicant A-MED SYSTEMS, INC.	

- ☐ REPLY DUE within \_\_\_\_\_ months/days from the above date of mailing  
☐ NO REPLY DUE, however, see below  
☒ IMPORTANT COMMUNICATION  
☐ INFORMATION ONLY

2. COMMUNICATION:

The information given for the CIP refers to serial number 09/933,566 (19.09.97) whereas the priority claim indicated in Box VI refers to serial number 08/933,566.

Please clarify.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer F. Gateau Telephone No. (41-22) 338.83.38
--	--

PCT INTERNATIONAL APPLICATION TR	DATE 14 OCTOBER	09/462A56
REGARDING THE INTERNATIONAL APPLICATION OF A-MED SYSTEMS, INC.	DOCKET OR REFERENCE NUMBER 19193-706	514 Rec'd PCT/PTO 11 JAN 2000
ENTITLED REVERSE FLOW TRANSPORT PUMP AND ORGAN STABILIZATION APPARATUS INCLUDING RELATED METHODS		

Certification under 37 CFR 1.10 (if applicable)

EM 033 352 813 US  
"Express Mail" mailing number

14 October 1997  
Date of Deposit

I hereby certify that this application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231/

Tracie K. Crothers  
Typed or Printed Name of person mailing application

Tracie K. Crothers  
Signature of person mailing application

To the United States Receiving Office (RO/US):  
Accompanying this transmittal letter is the above-identified International application, including a completed Request form (PCT/RO/101). Please process the application according to the provisions of the Patent Cooperation Treaty.

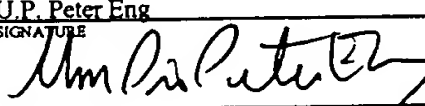
The following requests are made of the RO/US:

- ☒ PREPARATION AND TRANSMITTAL OF CERTIFIED COPY OF PRIORITY DOCUMENTS - Please prepare and transmit to the International Bureau a certified copy of the United States origin priority documents identified in Box VI of the Request form (37 CFR 1.451). To cover the cost of copy preparation and certification (37 CFR 1.19(a)(3) and (b)(1)).  
☐ a (check)(money order) in the amount of \$ \_\_\_\_\_ is attached to this transmittal letter.  
☒ the RO/US is hereby authorized to charge the following deposit account no.: 23-2415 (19193-706)  
The appropriate Search fee for the above-named Authority is indicated on the Fee Calculation Sheet (PCT/RO/101 Annex).
- ☐ SUPPLEMENTAL SEARCH FEES ONLY WHEN ISA/US CONDUCTS THE INTERNATIONAL SEARCH.) - Please charge any Supplemental Search fees that may be required by the United States International Searching Authority (ISA/US) to deposit account no.: 23-2415 (#

*I understand that this authorization is submitted to my oral confirmation thereof in each instance and that in no way limits my right to submit a protest against payment of the Supplemental Search fees, but is merely an administrative aid to assure that the ISA/US may timely complete the Search Report.*

NOTE: SUPPLEMENTAL SEARCH FEES FOR ISA/EP ARE PAYABLE DIRECTLY TO THE EUROPEAN PATENT OFFICE.

- ☒ DISCLOSURE INFORMATION - In order to assist in screening the accompanying International application for purposes of determining whether a license for foreign transmittal should and could be granted, the following information is supplied:  
A. ☐ There is no prior filed application relating to this invention.  
B. ☒ There are prior applications, serial numbers 08/891,456 filed 11 July 1997 (11.07.97) & 08/933,566 filed 19 September 1997 (19.09.97) which contains subject matter that is  
1. ☒ substantially identical to that of the accompanying International application.  
2. ☐ less than that of the accompanying International application. The additional subject matter of the International application appears on page(s) and line(s) \_\_\_\_\_.  
3. ☐ more than that of the accompanying International application.  
C. ☐ Disclosure information cannot be covered by the language of Points 4A or 4B above due to the involvement of several prior applications or for other reasons. A separate sheet on which the disclosure information is explained is attached to this transmittal letter.
- ☒ REQUEST FOR FOREIGN TRANSMITTAL LICENSE - According to the provisions of 35 U.S.C. 184 and 37CFR 5.11, a license to transmit the accompanying International application to foreign agencies or international authorities is hereby requested.  
\* priority is not claimed, unless all necessary information is listed in Box VI of the Request Form (PCT/RO/101).

SIGNER IS THE <input type="checkbox"/> APPLICANT <input type="checkbox"/> COMMON REPRESENTATIVE <input checked="" type="checkbox"/> (ATTORNEY OR AGENT) REG NO. <u>39,666</u>	NAME OF SIGNER (typed) <u>U.P. Peter Eng</u> SIGNATURE 
--	--

# PCT

## REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference  
(if desired) (12 characters maximum) 19193-706

**Box No. I TITLE OF INVENTION** REVERSE FLOW TRANSPORT PUMP AND ORGAN STABILIZATION APPARATUS INCLUDING RELATED METHODS

**Box No. II APPLICANT**

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

A-MED SYSTEMS, INC.  
3462 Bridgeford Drive  
Sacramento, CA 95834  
US

☐ This person is also inventor.

Telephone No.  
(916) 649-0555

Facsimile No.  
(916) 920-5684

Teleprinter No.

State (i.e. country) of nationality: US

State (i.e. country) of residence: US

This person is applicant for the purposes of: ☐ all designated States ☒ all designated States except the United States of America ☐ The United States of America only ☐ the States indicated in the Supplemental Box

**Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)**

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

ABOUL-HOSN, Walid  
3462 Bridgeford Drive  
Sacramento, CA 95834  
US

This person is:

☐ applicant only

☒ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

State (i.e. country) of nationality: US

State (i.e. country) of residence: US

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ The United States of America only ☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on a continuation sheet.

**Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒ agent

☐ common representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

ENG, U.P. Peter  
Wilson Sonsini Goodrich & Rosati  
650 Page Mill Road  
Palo Alto, California 94304-1050  
United States of America

Telephone No.  
650-493-9300

Facsimile No.  
650-493-6811

Teleprinter No.

☐ Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No. V

## DESIGNATION OF STATES

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

## Regional Patent

- ☒ **AP ARIPO Patent:** KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SZ Swaziland, UG Uganda GH Ghana and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ **EA Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakstan, MD Republic of Moldova RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line) . . . . .

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> AL Albania . . . . .                               | <input checked="" type="checkbox"/> LU Luxembourg . . . . .                                |
| <input checked="" type="checkbox"/> AM Armenia . . . . .                               | <input checked="" type="checkbox"/> LV Latvia . . . . .                                    |
| <input checked="" type="checkbox"/> AT Austria . . . . .                               | <input checked="" type="checkbox"/> MD Republic of Moldova . . . . .                       |
| <input checked="" type="checkbox"/> AU Australia . . . . .                             | <input checked="" type="checkbox"/> MG Madagascar . . . . .                                |
| <input checked="" type="checkbox"/> AZ Azerbaijan . . . . .                            | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia . . . . . |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina . . . . .                | <input checked="" type="checkbox"/> MN Mongolia . . . . .                                  |
| <input checked="" type="checkbox"/> BB Barbados . . . . .                              | <input checked="" type="checkbox"/> MW Malawi . . . . .                                    |
| <input checked="" type="checkbox"/> BG Bulgaria . . . . .                              | <input checked="" type="checkbox"/> MX Mexico . . . . .                                    |
| <input checked="" type="checkbox"/> BR Brazil . . . . .                                | <input checked="" type="checkbox"/> NO Norway . . . . .                                    |
| <input checked="" type="checkbox"/> BY Belarus . . . . .                               | <input checked="" type="checkbox"/> NZ New Zealand . . . . .                               |
| <input checked="" type="checkbox"/> CA Canada . . . . .                                | <input checked="" type="checkbox"/> PL Poland . . . . .                                    |
| <input checked="" type="checkbox"/> CH and LI Switzerland and Liechtenstein . . . . .  | <input checked="" type="checkbox"/> PT Portugal . . . . .                                  |
| <input checked="" type="checkbox"/> CN China . . . . .                                 | <input checked="" type="checkbox"/> RO Romania . . . . .                                   |
| <input checked="" type="checkbox"/> CU Cuba . . . . .                                  | <input checked="" type="checkbox"/> RU Russian Federation . . . . .                        |
| <input checked="" type="checkbox"/> CZ Czech Republic . . . . .                        | <input checked="" type="checkbox"/> SD Sudan . . . . .                                     |
| <input checked="" type="checkbox"/> DE Germany . . . . .                               | <input checked="" type="checkbox"/> SE Sweden . . . . .                                    |
| <input checked="" type="checkbox"/> DK Denmark . . . . .                               | <input checked="" type="checkbox"/> SG Singapore . . . . .                                 |
| <input checked="" type="checkbox"/> EE Estonia . . . . .                               | <input checked="" type="checkbox"/> SI Slovenia . . . . .                                  |
| <input checked="" type="checkbox"/> ES Spain . . . . .                                 | <input checked="" type="checkbox"/> SK Slovakia . . . . .                                  |
| <input checked="" type="checkbox"/> FI Finland . . . . .                               | <input checked="" type="checkbox"/> TJ Tajikistan . . . . .                                |
| <input checked="" type="checkbox"/> GB United Kingdom . . . . .                        | <input checked="" type="checkbox"/> TM Turkmenistan . . . . .                              |
| <input checked="" type="checkbox"/> GE Georgia . . . . .                               | <input checked="" type="checkbox"/> TR Turkey . . . . .                                    |
| <input checked="" type="checkbox"/> GH Ghana . . . . .                                 | <input checked="" type="checkbox"/> TT Trinidad and Tobago . . . . .                       |
| <input checked="" type="checkbox"/> HU Hungary . . . . .                               | <input checked="" type="checkbox"/> UA Ukraine . . . . .                                   |
| <input checked="" type="checkbox"/> IL Israel . . . . .                                | <input checked="" type="checkbox"/> UG Uganda . . . . .                                    |
| <input checked="" type="checkbox"/> IS Iceland . . . . .                               | <input checked="" type="checkbox"/> US United States of America . . . . as CIP . . . . .   |
| <input checked="" type="checkbox"/> JP Japan . . . . .                                 | <input checked="" type="checkbox"/> UZ Uzbekistan . . . . .                                |
| <input checked="" type="checkbox"/> KE Kenya . . . . .                                 | <input checked="" type="checkbox"/> VN Viet Nam . . . . .                                  |
| <input checked="" type="checkbox"/> KG Kyrgyzstan . . . . .                            | <input checked="" type="checkbox"/> YU Yugoslavia . . . . .                                |
| <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea . . . . . |  |
| <input checked="" type="checkbox"/> KR Republic of Korea . . . . .                     |  |
| <input checked="" type="checkbox"/> KZ Kazakstan . . . . .                             |  |
| <input checked="" type="checkbox"/> LK Sri Lanka . . . . .                             |  |
| <input checked="" type="checkbox"/> LR Liberia . . . . .                               |  |
| <input checked="" type="checkbox"/> LS Lesotho . . . . .                               |  |
| <input checked="" type="checkbox"/> LT Lithuania . . . . .                             |  |

Check-boxes reserved for designating States (for the purposes of a national patent) which have become party to the PCT after issuance of this sheet:

- ☒ SL Sierra Leone . . . . .
- ☒ ZW Zimbabwe . . . . .
- ☒ . . . . .

**Box No. VI PRIORITY CLAIM**Further priority claims are indicated in the Supplemental Box ☐

The priority of the following earlier application(s) is hereby claimed:

Country (in which, or for which, the application was filed)	Filing Date (day/month/year)	Application No.	Office of Filing (only for regional or international application)
item (1) US	11 July 1997 (11.07.97)	08/891,456	
item (2) US	19 September 1997 (19.09.97)	08/933,566	
item (3)			

Mark the following check-box if the certified copy of the earlier application is to be issued by the Office which for the purposes of the present international application is the receiving Office (a fee may be required):

☒ The receiving Office is hereby requested to prepare and transmit to the international Bureau a certified copy of the earlier application(s) identified above as item(s): (1) (2)
**Box No. VII INTERNATIONAL SEARCHING AUTHORITY**

Choice of International Searching Authority (ISA) (If two or more International Service Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used.): ISA / EP

**Earlier search** Fill in where a search (international, international-type or other) by the International Searching Authority has already been carried out or requested and the Authority is now requested to base the international search, to the extent possible, on the results of that earlier search. Identify such a search or request either by reference to the relevant application (or the translation thereof) or by reference to the search request: Country (or regional Office): Date (day/month/year): Number:

**Box No. VIII CHECK LIST**

This international application contains the following number of sheets:

1. request : 4 sheets  
 2. description : 33 sheets  
 3. claims : 8 sheets  
 4. abstract : 1 sheets  
 5. drawings : 25 sheets  
 Total : 71 sheets

This international application is accompanied by the item(s) marked below:

1. ☐ separate signed power of attorney  
 2. ☐ copy of general power of attorney  
 3. ☐ statement explaining lack of signature  
 4. ☐ priority document(s) identified in Box No. VI as item(s):  
 5. ☒ fee calculation sheet  
 6. ☐ separate indications concerning deposited microorganisms  
 7. ☐ nucleotide and/or amino acid sequence listing (diskette)  
 8. ☒ other (specify): Certification of Express Mailing

Figure No. \_\_\_\_\_ of the drawings (if any) should accompany the abstract when it is published.

**Box No. IX SIGNATURE OF APPLICANT OR AGENT**

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

  
 U.P. Peter ENG, Agent for Applicant

For receiving Office use only

1. Date of actual receipt of the purported international application:	2. Drawings:  <input type="checkbox"/> received  <input type="checkbox"/> not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:	
4. Date of timely receipt of the required corrections under PCT Article 11(2):	
5. International Searching Authority specified by the applicant: ISA/	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid

For International Bureau use only

Date of receipt of the record copy by the International Bureau:

**Supplemental Box***If the Supplemental Box is not used, this sheet need not be included in the request.***Use this box in the following cases:****1. If, in any of the Boxes, the space is insufficient to furnish all the information:****in particular:**

- (i) if more than two persons are involved as applicants and/or inventors and no "continuation sheet" is available:
- (ii) if, in Box No. II or in any of the sub-boxes of Box No. III, the indication "the States indicated in the Supplemental Box" is checked:
- (iii) if, in Box No. II or in any of the sub-boxes of Box No. III, the inventor or the inventor/applicant is not inventor for the purposes of all designated States or for the purposes of the United States of America:
- (iv) if, in addition to the agent(s) indicated in Box No. IV, there are further agents:
- (v) if, in Box No. V, the name of any State (or OAPI) is accompanied by the indication "patent of addition," or "certificate of addition," or if, in Box No. V, the name of the United States of America is accompanied by an indication "Continuation" or "Continuation-in-part":
- (vi) if there are more than three earlier applications whose priority is claimed:

in such case, write "Continuation of Box No. ..." [indicate the number of the Box] and furnish the information in the same manner as required according to the captions of the Box in which the space was insufficient;

in such case, write "Continuation of Box No. III" and indicate for each additional person the same type of information as required in Box No. III;

in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the applicant(s) involved and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, European or OAPI patent) for the purposes of which the named person is applicant;

in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the inventor(s) and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, European or OAPI patent) for the purposes of which the named person is inventor;

in such case, write "Continuation of Box No. IV" and indicate for each further agent the same type of information as required in Box No. IV;

in such case, write "Continuation of Box No. V" and the name of each State involved (or OAPI), and after the name of each such State (or OAPI), the number of the parent title or parent application and the date of grant of the parent title or filing of the parent application;

in such case, write "Continuation of Box No. VI" and indicate for each additional earlier application the same type of information as required in Box No. VI.

**2. If the applicant claims, in respect of any designated Office, the benefits of provisions of the national law concerning non-prejudicial disclosures or exceptions to lack of novelty:**

in such case, write "Statement Concerning Non-Prejudicial Disclosures or Exceptions to Lack of Novelty" and furnish that statement below.

Continuation of Box No. V.

1) U.S.: 08/891,456; Filed 11 July 1997 (11.07.97)

2) U.S.: 09/933,566; Filed 19 September 1997 (19.09.97)

PC

For receiving Office use only

## FEE CALCULATION SHEET

Annex to the Request

International application No.

Applicant's or agent's  
file reference 19193-706

Date stamp of the receiving Office

Applicant

A-MED SYSTEMS, INC.

## CALCULATION OF PRESCRIBED FEES

1. TRANSMITTAL FEE .....

230.00

T

2. SEARCH FEE .....

1180.00

S

Internal search to be carried out by EP

(If two or more International Searching Authorities are competent in relation to the international application, indicate the name of the Authority which is chosen to carry out the international search.)

3. INTERNATIONAL FEE

## Basic Fee

The international application contains 71 sheets.

first 30 sheets .....

530.00

b<sub>1</sub>41x 10.00

=

410.00

b<sub>2</sub>

remaining sheets

additional amount

Add amounts entered at b<sub>1</sub> and b<sub>2</sub>

and enter total at B .....

940.00

B

## Designation Fee

The international application contains 72 designations.11

x

128.00

=

1,408.00

D

number of designation fees

amount of designation fee

payable (maximum 11)

Add amounts entered at B and D and enter total at I .....

2,348.00

I

(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)

4. FEE FOR PRIORITY DOCUMENT .....

30.00

P

5. TOTAL FEES PAYABLE

Add amounts entered at T, S, I and P,

and enter total in the TOTAL box .....

3,788.00

TOTAL

☐ The designation fee is not paid at this time.

## MODE OF PAYMENT

☒ authorization to charge  
deposit account (see below)☐ bank draft☐ coupons☐ cheque☐ cash☐ other (specify):☐ postal money order☐ revenue stamps

## DEPOSIT ACCOUNT AUTHORIZATION (this mode of payment may not be available at all receiving Offices)

The RO/ US☒

is hereby authorized to charge the total fees indicated above to my deposit account.

☒

is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.

☒

is hereby authorized to charge the fee for preparation and transmittal of the priority document to the International Bureau of WIPO to my deposit account.

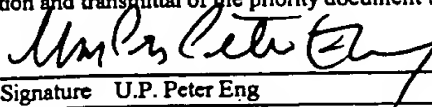
23-2415

Deposit Account Number

Date (day/month/year)

14/10/97

Signature U.P. Peter Eng





# INTERNET COOPERATION TREATY

032301-007  
A-Med Sys.  
TGD/FFD

**PCT**

Article 19 Am  
due 2/9/99

From the INTERNATIONAL SEARCHING AUTHORITY

To:

BURNS, DOANE, SWECKER & MATHIS LLP  
Attn. DILLAHUNTY, T. Gene  
P.O. Box 1404  
Alexandria, Virginia 22313-1404  
UNITED STATES OF AMERICA

COMMUNICATION IN CASES FOR WHICH  
NO OTHER FORM IS APPLICABLE

Applicant's or agent's file reference <b>19193-706</b>	Date of mailing (day/month/year) <b>09/12/1998</b>
International application No. <b>PCT/US 97/ 18674</b>	REPLY DUE See paragraph 1 below
Applicant <b>A-MED SYSTEMS, INC. et al.</b>	International filing date (day/month/year) <b>14/10/1997</b>

1. ☐ REPLY DUE within \_\_\_\_\_ ~~XXXX~~ days from the above date of mailing

☐ NO REPLY DUE

2. COMMUNICATION:

Due to an error, the partial search report has to be cancelled and replaced by the final report herewith.

The additional search fee already paid will be refunded in due course.

BURNS, DOANE,  
**RECEIVED**  
DEC 14 1998  
**REGISTERED**  
SWECKER & MATHIS, L.L.P.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Elisabeth Vonk

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

## PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

(PCT Rule 44.1)

To:

BURNS, DOANE, SWECKER & MATHIS LLP  
Attn. DILLAHUNTY, T. Gene  
P.O. Box 1404  
Alexandria, Virginia 22313-1404  
UNITED STATES OF AMERICA

Date of mailing  
(day/month/year)

09/12/1998

Applicant's or agent's file reference

19193-706

**FOR FURTHER ACTION**

See paragraphs 1 and 4 below

International application No.

PCT/US 97/18674

International filing date  
(day/month/year)

14/10/1997

Applicant

A-MED SYSTEMS, INC. et al.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicants's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90 bis.1 and 90 bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Elisabeth Vonk

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>19193-706</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 97/ 18674</b>	International filing date (day/month/year) <b>14/10/1997</b>	(Earliest) Priority Date (day/month/year) <b>11/07/1997</b>
Applicant <b>A-MED SYSTEMS, INC. et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. ☒ Certain claims were found unsearchable (see Box I).
2. ☒ Unity of invention is lacking (see Box II).
3. ☐ The international application contains disclosure of a nucleotide and/or amino acid sequence listing and the international search was carried out on the basis of the sequence listing
  - ☐ filed with the international application.
  - ☐ furnished by the applicant separately from the international application,
    - ☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.
  - ☐ Transcribed by this Authority
4. With regard to the title,
  - ☐ the text is approved as submitted by the applicant.
  - ☒ the text has been established by this Authority to read as follows:  
**TRANSPORT PUMP AND ORGAN STABILIZATION APPARATUS INCLUDING RELATED METHODS.**
5. With regard to the abstract,
  - ☐ the text is approved as submitted by the applicant.
  - ☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this International Search Report, submit comments to this Authority.
6. The figure of the drawings to be published with the abstract is:  
Figure No. 1
  - ☐ as suggested by the applicant.
  - ☒ because the applicant failed to suggest a figure.
  - ☐ because this figure better characterizes the invention.
  - ☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 97/18674

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 29, 30  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. ☒ Claims Nos.: 25-27  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
Reference is made in claim 25 to an "inner cannula" which logically requests the presence in the claim of an "outer cannula"
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims : 1-24

A pump for transporting bodily fluids consisting of a housing having inner and outer passages, a rotor, to create a reverse flow.

2. Claim : 28

Stabilization device, flexible guiding element, to immobilize.

3. Claims : 31-46

A pair of conduits having at least a portion of them forming a coaxial region.

Claims 1-24 describe a (blood) pump consisting of a housing containing a rotor impeller, the housing having inner and outer passageways to allow the creation of a "reverse flow" (i.e. the pump creates both the flow of the incoming fluid and the flow of the outgoing fluid, the two flows being parallel, coaxial and opposite in direction).

Claim 28 describes a stabilization device having a flexible guiding element to access the interior of a collapsible organ (which could be: heart, bladder, veins, arteries) to immobilize the operative site.

Claims 31-46 describe a pair of conduits wherein at least a portion of the two conduits (cannulas) share a coaxial region, or otherwise said, the inner conduit passes through a portion of the outer conduit.

None of the technical features identified in the 2 different groups of claims have anything in common in the sense specified by rule 13.2 of P.C.T. constituting therefore ground for a case of a non unity a priori.

## Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

A surgical pump suitable for bodily fluids, normally blood, usable in the course of surgical interventions as an alternative to the traditional CPB ( cardio pulmonary bypass) making use of external blood pumps.

It consists of an intake cannula (20) which is inserted with its first ( distal) end in a first vessel, an outflow cannula (30) coaxial for some length with, and larger than the first cannula, which is inserted with its first (distal) end in a second vessel, both second ends of the coaxial cannulas being connected with a pump housing( 52 ) having an inlet (62) for the inner cannula and outflow windows (64 ) for the outer cannula, a rotor impeller ( 70) housed in the housing and connected with an electric motor (80) rotating coaxially below the pump housing, the housing having inner (56) and outer (59) passageways which allow inflow, change of flow direction (reversal) and outflow of the fluid, thus producing two coaxial counter flowing flows in the coaxial cannulas.

The pump can be used making use of a single portal.

Inflatable balloons can be used to stabilize the cannulas in situ and to stabilize the walls of the organs or vessels where the cannulas are inserted.

# INTERNATIONAL SEARCH REPORT

International Application No  
**PCT/US 97/18674**

**A. CLASSIFICATION OF SUBJECT MATTER**  
**IPC 6 A61M1/10**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
**IPC 6 A61M**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 768 091 A (SUN MEDICAL TECHNOLOGY) 16 April 1997 see abstract; figures 1,2	1,6,11, 31,38,42
X	EP 0 280 225 A (CARDIOSISTEMI) 31 August 1988 see the whole document	28
X	US 5 478 309 A (SWEETZER) 26 December 1995 see abstract; figure 3	28

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "Z" document member of the same patent family

Date of the actual completion of the international search

**18 November 1998**

Date of mailing of the international search report

**09.12.98**

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
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Authorized officer

**Papone, F**

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 97/18674

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
EP 768091	A	16-04-1997	NONE		
EP 280225	A	31-08-1988	NONE		
US 5478309	A	26-12-1995	AU	694234 B	16-07-1998
			AU	2655595 A	21-12-1995
			CA	2191301 A	07-12-1995
			EP	0760688 A	12-03-1997
			JP	10501159 T	03-02-1998
			WO	9532745 A	07-12-1995
			US	5810757 A	22-09-1998
			US	5765568 A	16-06-1998
			US	5800375 A	01-09-1998



# PATENT COOPERATION TREATY

# PCT

REC'D 16 SEP 1999

WIPO PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 032301-007	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US97/18674	International filing date (day/month/year) 14/10/1997	Priority date (day/month/year) 11/07/1997
International Patent Classification (IPC) or national classification and IPC A61M1/10		
Applicant A-MED SYSTEMS, INC. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☐ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 29/01/1999	Date of completion of this report 14.09.99
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Dhervé, G Telephone No. +49 89 2399 2415 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US97/18674

**I. Basis of the report**

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

**Description, pages:**

1-33 as originally filed

**Claims, No.:**

1-46 as originally filed

**Drawings, sheets:**

1/25-25/25 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☒ the entire international application.  
☐ claims Nos. .

because:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US97/18674

- ☒ the said international application, or the said claims Nos. 29, 30 relate to the following subject matter which does not require an international preliminary examination (*specify*):

**see separate sheet**

- ☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 1-28, 31-46 are so unclear that no meaningful opinion could be formed (*specify*):

**see separate sheet**

- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

- ☒ no international search report has been established for the said claims Nos. 25-27, 29, 30.

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.  
☐ paid additional fees.  
☐ paid additional fees under protest.  
☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.  
☒ not complied with for the following reasons:

**see separate sheet**

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.  
☐ the parts relating to claims Nos. .

### III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

No meaningful opinion can be formed with regard to novelty, inventive step and industrial applicability of **claims 1-46** (Article 34(4)(a)(ii) PCT) for the following reasons.

**III.1.** The **claims 1-28 and 31-46** are not concise (Article 6 PCT) having regard to the plurality of independent claims which relate to :

- a pump for transporting bodily fluids (claim 1),
- a hubless reverse flow rotor (claims 6),
- a reverse flow pump and coaxial lumen system (claim 11),
- a heart stabilization system (claim 25),
- an organ stabilization device for operative site (claim 28),
- a coaxial lumen assembly for a fluid pump (claim 31),
- a dual lumen fluid transport device (claim 38),
- a reverse flow dual lumen system for a fluid pump (claim 42).

This presentation of a plurality of independent claims makes impossible to identify "the claimed invention" on which an opinion should be based in the sense of Article 33(1) PCT.

Furthermore, since no international search report has been established on **claims 25-27**, no opinion with regard to novelty and inventive step of these claims can be established.

**III.2.** No international preliminary examination is carried out on **independent claims 29 and 30** because they relate to methods which involves a surgical treatment of the living body by surgery (see Article 34(4)(i) PCT and Rule 67(1)(iv) PCT). It is to be noted that, moreover, no international search report has been established for these claims.

### IV. Lack of unity of invention

As the International Searching Authority already pointed out, the application consists of different groups of invention which are:

- Claims 1-24: A pump for transporting bodily fluids consisting of a housing

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/US97/18674

having inner and outer passages, a rotor, to create a reverse flow;

- Claim 28: Stabilization device, flexible guiding element, for immobilization;
- Claims 31-46: A pair of conduits having at least a portion of them forming a coaxial region.

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) since the only common concept is that the above cited products could be used in aggregation. An use however cannot constitute a unity concept linking together products which could also be used separately.